



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF BEHAVIORAL HEALTH AND DEVELOPMENTAL SERVICES

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### Office of Integrated Health – Health Supports Network Health & Safety Alert/Information

## Anaphylaxis Health & Safety Alert

### Introduction

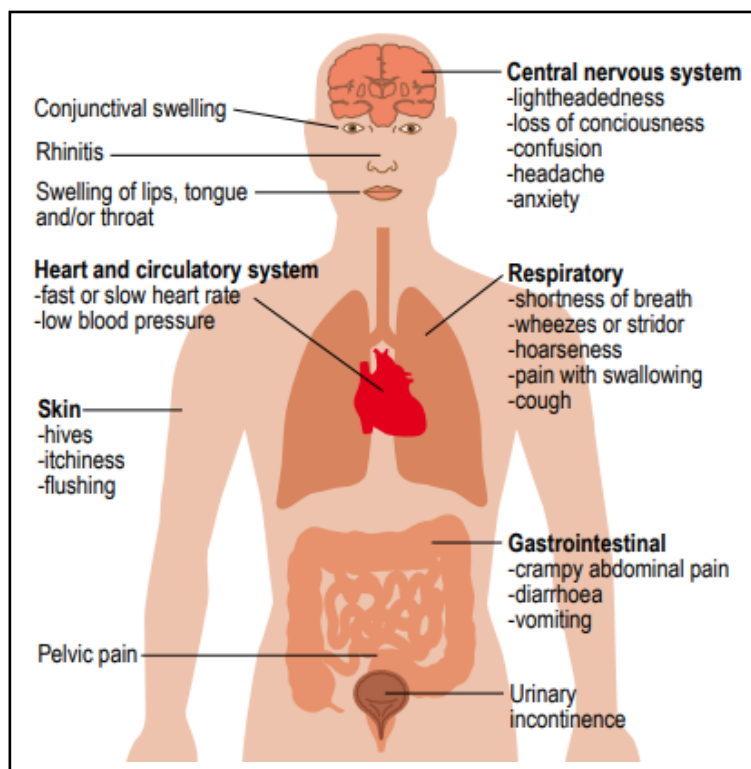
The American Academy of Allergy, Asthma & Immunology (AAAAI) defines anaphylaxis as a serious, life-threatening allergic reaction. Allergic reactions can range between mild to severe, with anaphylaxis being the most serious type of reaction to allergens (4) (8) (24).

Anaphylactic reactions are unpredictable; some may occur within seconds to minutes of being exposed to an allergen, while others may take several hours to appear (3) (27). These severe hypersensitive reactions can be brought on by certain foods, insect stings, medications and or latex (3) (24).

Anaphylaxis is a medical emergency requiring epinephrine, a call to 911 and immediate transport to the local emergency room for continuing treatment and observation (27).

When an anaphylactic event occurs, an epinephrine (adrenaline) injection is **always** the initial immediate treatment (24) (27). Quick identification of anaphylaxis signs and symptoms is extremely important, so medical treatment can be provided without delay.

If medical treatment is not provided immediately, anaphylaxis can be fatal and or can lead to permanent organ damage (2) (24).



## Prevalence

The occurrence of anaphylaxis varies around the world due to different allergens (21). According to a recent research study completed by the (AAFA), almost 1 in 50 Americans could experience a severe allergic reaction. This study also found many people are not prepared for this type of reaction, meaning they don't have access to an epinephrine auto-injector (4).

The majority of anaphylactic reactions are seen in children and younger adults (27). Anaphylaxis related to foods has increased over the past 20 years (in developed countries) possibly due to changes in diets worldwide, which now contain higher amounts of refined carbohydrates, added fats, and sugars (27) (22).

With immediate care and quick treatment of anaphylaxis, the risk of death is low. Current research indicates fatal or near-fatal episodes of anaphylaxis are rare, even when misdiagnosed (27) (28).

## Anaphylaxis Triggers

Identifying the triggers for anaphylaxis is essential when caring for individuals who experience allergic reactions. Some anaphylactic triggers cannot be identified. This is known as idiopathic anaphylaxis (4) (24).

### Foods

The main cause of anaphylaxis among children are food allergies (25) (24). Avoidance of certain foods is the only way to evade allergic reaction in most cases. Some individuals only need to smell or touch certain foods to bring on an allergic reaction, but most need to ingest the food (15).

Some common food allergens are to:

- Milk (cow, goat).
- Eggs.
- Peanuts (peanut butter).
- Fish or shellfish (shrimp, lobster).
- Soy.
- Tree nuts (walnut, hazel nut/filbert, cashew, pistachio nut, Brazil nut, pine nut, almond).
- Wheat.
- Seeds (cotton seed, sesame, mustard).
- Fruits, vegetables (26).



## Medications

Medications are the leading cause of anaphylaxis in adults, and typically have more serious outcomes (5) (23). It is important to distinguish the difference between a medication side-effect and a true allergic reaction to a drug (15). Most anaphylactic reactions to medications occur in the hospital (14).

Some common medications which have led to anaphylactic reactions include:

- Antibiotics, such as penicillin.
- Non-steroidal anti-inflammatory drugs (NSAIDs) and other analgesics, such as aspirin, ibuprofen, and other over the counter pain relievers.
- Chemotherapy drugs.
- Peri-operative drugs.
- Medications which suppress the immune system.
- Muscle relaxers.
- Dye used for computed tomography (CT) scans (23) (25).



## Insect Venom

At least 60 percent of individuals who experience an allergic reaction from an insect sting have an equal or increased chance of a worse reaction if they are stung again (15) (28) (25). Eighty percent of the people who die from wasp or bee stings are men (10).

- Stings from bees, yellow jackets, wasps, and hornets.
- Bites from fire ants (Red ants).
- Certain tick bites can lead to severe allergic reactions to meat (4) (14).



Latex is made from natural rubber which contains the protein in the sap of the Brazilian rubber tree. The majority of people in U.S. who have latex allergies work in the healthcare profession (4).

- Individuals at increased risk for Latex allergies are those diagnosed with spina bifida, females, healthcare workers, people with skin sensitivities or who have experienced numerous surgeries, and those who work in latex manufacturing facilities (15).
- Physical contact with Latex, and or breathing Latex particles, found in medical items such as disposable gloves and adhesive tape in the hospital can produce an allergic reaction (4) (12).
- Latex can be found in common everyday products such as balloons, rubber bands, rubber balls, bandages, etc. (4). (See picture below.)
- Synthetic latex does not produce allergic reactions from exposure (4).
- Sometimes people with latex allergies can experience a reaction to “latex reactive foods” which contain proteins similar to those in the rubber tree sap (7).



Although physical activity itself does not cause anaphylaxis, an anaphylactic reaction may be more likely to occur in situations when an individual is exposed to numerous minor triggers at the same time (extreme temperatures, seasonal changes, or eating certain foods before exercising, etc.) (4) (24).

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## Mild Allergic Reactions

Mild allergic reactions typically only involve one organ system, such as the skin and do not spread to other parts of the body (13). Mild reactions are those with symptoms such as a rash or hives, itchiness, watery/red eyes, and runny nose (13) (23) (28).

## Moderate Allergic Reactions

Moderate allergic reactions may include symptoms which spread to other parts of your body. Symptoms may include itchiness, hives, and/or swelling (13).

## Anaphylaxis Signs & Symptoms

Anaphylaxis is a sudden, severe, overwhelming, life-threatening, whole-body reaction which involves the respiratory and cardiovascular systems (8) (22) (28). Anaphylaxis is ALWAYS a medical emergency (22). It may, or may not, involve visible skin rash symptoms (8) (3). Anaphylaxis can turn into anaphylactic shock quickly (28).

Symptoms may include:

### Respiratory

- Difficulty breathing/shortness of breath.
- Swelling of the throat.
- Tightness of the throat.
- Swelling of the tongue.
- Difficulty swallowing.
- Persistent, significant coughing.
- Wheezing/noisy breathing.
- Change in voice or cry.
- Difficulty vocalizing.

### Cardiovascular

- Drop in blood pressure, systolic less than 90 mm Hg.
- Pale appearance.
- Rapid heartbeat.
- Cardiac arrest.

### Integumentary (Skin)

- Rash/Hives which spread to many areas of the body.
- Severe Itching.
- Sweating.
- Swelling of the eye lids, or lips.

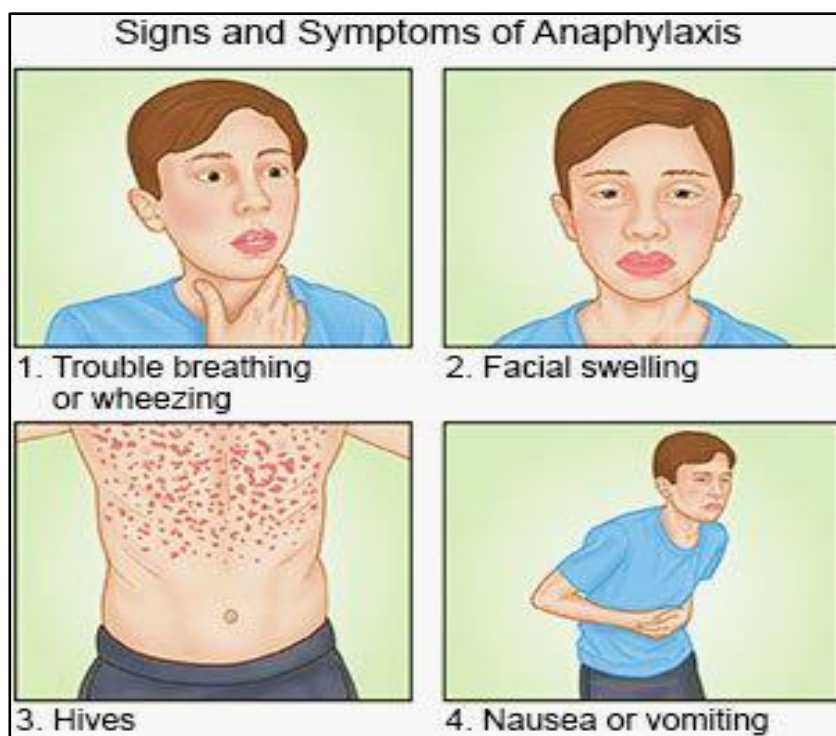


### Gastrointestinal symptoms

- Diarrhea.
- Vomiting.
- Abdominal cramping.

### Neurologic

- Headache.
- Loss of consciousness.
- Feeling floppy (only in babies and younger children).
- Feeling of impending doom (12) (13).



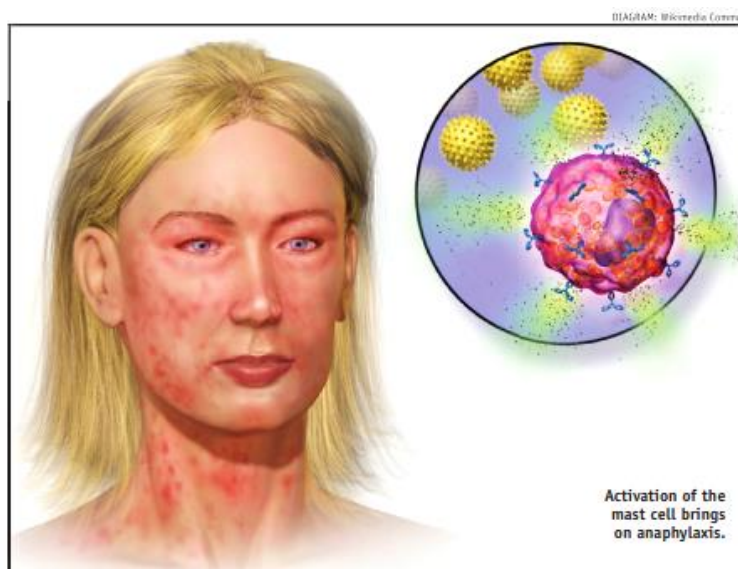
**If you think a person is having an anaphylactic reaction, administer epinephrine autoinjector and call 911 immediately.**

**The person's life depends on quick action. DO NOT wait to see if symptoms get better.**

This ensures the individual is immediately transported to the nearest emergency department for evaluation, monitoring and to receive further treatment by medical professionals (24).

## Risk Factors

- Individuals who have allergies, or a family history of anaphylaxis are at higher risk for experiencing anaphylaxis themselves.
- Individual who have experienced anaphylaxis once, are at increased risk for having another anaphylactic reaction (3) (14).
- A diagnosis of asthma can increase the risk for a fatal episode of anaphylaxis (24).
- Age 65 or older.
- Individual's with cardiovascular disease.
- Other underlying medical conditions.
- A diagnosis of mastocytosis, a rare disorder which results in too many mast cells building up in your body (13) (24).



- Substance abuse and alcohol use also increases an individual's risk for anaphylaxis (2) (13).
- The use of beta blockers (commonly used to treat high blood pressure) can increase the severity of an anaphylaxis reaction. Individuals who have a history of anaphylaxis may need to be placed on another medication, if there is another non-beta blocker medication which is just as effective (20). Please bring the issue to the PCP's attention and follow their instructions for the individual.

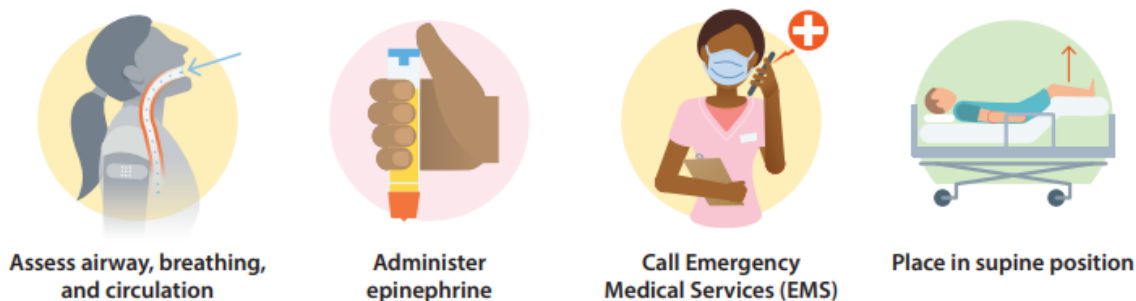
## Treatment for Anaphylaxis

Immediate treatment of anaphylaxis is the administration of epinephrine. Evidence has shown **any delay** in administering epinephrine has been associated with higher rates of hospitalizations and increased mortality rates. No other medications have been shown to reverse the physical anaphylactic response in the body at this time (11) (24) (24).

According to the Centers for Disease Control and Prevention, when anaphylaxis is suspected you should be prepared to:

- Assess airway, breathing, and circulation.
- Administer epinephrine.
- Call Emergency Medical Services (EMS) **9-1-1**.
- Place the individual on their back with legs elevated.
- Stay with the individual until emergency medical professionals arrive (11) (24).

### What to do if you suspect anaphylaxis



## Premeasured Epinephrine Auto-Injectors

There are several different types of premeasured auto-injector epinephrine pens on the market. Some have instructions printed right on the side of the device, some include tester pens to practice with prior to an anaphylactic emergency, and some actually have verbal instructions when the pen is opened for use (21).

- Auto-injector epinephrine pens come in different dosage sizes which are individualized to the person's weight and require a prescription from an individual's primary care physician (PCP) to obtain.
- Epinephrine is sensitive to extreme temperatures and should not be stored in the refrigerator or left in a hot environment.



- Auto-injector epinephrine pens have a 12 to 18-month expiration (21).
- Epinephrine is administered intra-muscularly in the mid-outer thigh and held for a count of 3.
- An epinephrine injection can be repeated up to three times, given at between 5 to 15 minutes apart, in individuals who do not respond to the first dose (2) (24).
- All unlicensed persons and caregivers should be trained to administer epinephrine and follow directions on the auto-injector as directed by the physician, including CPR and First Aid training guidelines per the providing agency's policy and procedure.
- Even if the individual has fully recovered from the first dose of epinephrine, they should be taken to the Emergency Room for monitoring after an injection (24).
- Accidental injury can occur from the incorrect use of an auto-injector pen when individuals and caregivers are untrained or are panicking. Some known incidences include operating the device upside down administering the injection into the thumb instead of the thigh, administering the injection into the wrong site, such as the fatty tissue of the inside of the leg or in the stomach. Other issues which have occurred are not removing the safety cap or using expired epinephrine (21).



### **Individuals with Intellectual Disabilities (DD) May be at Higher Risk for a Reoccurring Anaphylactic Event**

Although it has not been studied in depth, in theory, individuals with DD may be at higher risk for a reoccurring anaphylactic event due to the following:

- Some individuals with DD are unable to read and due to this, may be unable to read food labels to determine if the food contains the allergy trigger or not.
- If the individual's anaphylactic reaction occurred before age 3, they may be unable to remember the actual events or be able to comprehend the danger or seriousness of the threat to their health.
- Likewise, individuals who are severely cognitively delayed, may be unable to comprehend the danger to their health, even if the anaphylactic event occurred recently.

- Individuals with DD who have communication difficulties may be placed in situations where they are unable to communicate to others what they can and cannot eat safely.
- Individuals with DD who are severely cognitively delayed and/or those who have communication difficulties may be unable to communicate or describe the symptoms they are feeling (the sense of doom, throat and airway tightening, etc.), which may delay treatment.
- Individuals with DD may be unable to remember some or all of the things they are allergic to and therefore may not give an accurate list to others.
- Individuals with DD who are experiencing anaphylactic symptoms (and therefore cannot speak), but also have mobility issues, may be unable to seek out help. Example: someone who cannot propel their wheelchair independently to tell their caregiver who is in another part of the home.

## **Ways to Lower Risk of a Future Anaphylactic Events**


- To lower risk of a future anaphylactic events, avoid triggers whenever possible (14) (24).
- All individuals who experience an anaphylactic event should be evaluated by an allergist to identify what allergens are triggering their reactions. This is done by a series of skin prick tests (28).
- Individuals, family members, and caregivers should receive education regarding anaphylaxis, specific triggers, and when epinephrine is to be used.
- Individuals should receive a prescription for at least two auto-injector pens to keep with them at all times.
- Many physician's link annual prescriptions renewals for epinephrine auto-injector pens with an individual's birthday or other specific events as a reminder to reorder (24).
- Individuals are encouraged to wear medical alert bracelets or jewelry, and to carry anaphylaxis emergency wallet cards listing their triggers (14) (24).
- The American Academy of Allergy, Asthma, and Immunology (AAAAI) suggests all patients with anaphylaxis have a personalized emergency action plan.
- Emergency Action Plans should be individualized, list all triggers, signs and symptoms, along with instructions on how and when to use their auto-injectable epinephrine (24).

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- The AAAAI's Anaphylaxis Emergency Action Plan can be found on their website at [www.aaaai.org](http://www.aaaai.org)



American Academy of  
Allergy Asthma & Immunology  
[www.aaaai.org](http://www.aaaai.org)

## Anaphylaxis Emergency Action Plan

Patient Name: \_\_\_\_\_ Age: \_\_\_\_\_

Allergies: \_\_\_\_\_

Asthma ☐ Yes (*high risk for severe reaction*) ☐ No

Additional health problems besides anaphylaxis: \_\_\_\_\_

Concurrent medications: \_\_\_\_\_

<b>MOUTH</b> <b>THROAT*</b> <b>SKIN</b> <b>GUT</b> <b>LUNG*</b> <b>HEART*</b>	<b>Symptoms of Anaphylaxis</b> itching, swelling of lips and/or tongue itching, tightness/closure, hoarseness itching, hives, redness, swelling vomiting, diarrhea, cramps shortness of breath, cough, wheeze weak pulse, dizziness, passing out
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*Only a few symptoms may be present. Severity of symptoms can change quickly.  
\*Some symptoms can be life-threatening. ACT FAST!*

**Emergency Action Steps - DO NOT HESITATE TO GIVE EPINEPHRINE!**

1. Inject epinephrine in thigh using (check one): ☐ Adrenaclick (0.15 mg) ☐ Adrenaclick (0.3 mg)

☐ Auvi-Q (0.15 mg) ☐ Auvi-Q (0.3 mg)

☐ EpiPen Jr (0.15 mg) ☐ EpiPen (0.3 mg)

**Epinephrine Injection, USP Auto-injector- authorized generic**

☐ (0.15 mg) ☐ (0.3 mg)

☐ Other (0.15 mg) ☐ Other (0.3 mg)

Specify others: \_\_\_\_\_

**IMPORTANT: ASTHMA INHALERS AND/OR ANTIHISTAMINES CAN'T BE DEPENDED ON IN ANAPHYLAXIS.**

2. Call 911 or rescue squad (before calling contact)

3. Emergency contact #1: home \_\_\_\_\_ work \_\_\_\_\_ cell \_\_\_\_\_

Emergency contact #2: home \_\_\_\_\_ work \_\_\_\_\_ cell \_\_\_\_\_

Emergency contact #3: home \_\_\_\_\_ work \_\_\_\_\_ cell \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Doctor's Signature/Date/Phone Number \_\_\_\_\_

Parent's Signature (for individuals under age 18 yrs)/Date \_\_\_\_\_

This information is for general purposes and is not intended to replace the advice of a qualified health professional. For more information, visit [www.aaaai.org](http://www.aaaai.org). © 2017 American Academy of Allergy, Asthma & Immunology 4/2017

## Lowering Risk to a Food-Related Trigger

- Attempt to make a habit of carefully reading food package labels before making a purchase, this is the safest way to ensure the food does not contain a specific allergen (18).
- Ingredients and manufacturing processes can change without warning, so labels should be reviewed every time a food is purchased even if the food has been purchased before (18).
- Laws and regulations like the Food Allergen Labeling and Consumer Protection Act of 2004 (FALCPA) have made it easier for people with food allergies to identify problem foods and avoid them (18).
- The FALCPA covers the 8 most common food allergens to include milk, egg, peanut, tree nuts, soy, wheat, fish and crustacean shellfish.
- It is important to note that Molluscan shellfish, such as oysters, clams, mussels or scallop are not required to be labeled as a major allergen (18).
- Sesame has recently been added as the 9<sup>th</sup> most common food allergen to the FALCPA list.
- According to the U.S. Food and Drug Administration (FDA), advisory food labels “should **not** be used as a substitute for adhering to current good manufacturing practices and must be truthful and not misleading” (25).
- Food allergens are required to be noted on food product labels in one of two ways. Either by naming the food source in parentheses followed by the ingredient, example: “lecithin (soy)”, “flour (wheat)”, and “whey (milk)”; or with a statement declaring the product contains an allergen, example: “Contains wheat, milk, and soy” (25).
- Manufacturers are also required to state if possible cross contamination with allergens may have occurred in their facilities during manufacture on their labels.
- FARE’s Food Allergy & Anaphylaxis Emergency Care Plan, outlines recommended treatment in case of an allergic reaction to foods in an easy to follow format which are critical during an emergency.
- The plan is also available in Spanish (17).



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<b>FARE</b> <small>Food Allergy Research &amp; Education</small>		<b>FOOD ALLERGY &amp; ANAPHYLAXIS EMERGENCY CARE PLAN</b>													
Name: _____ D.O.B.: _____		<b>PLACE PICTURE HERE</b>													
Allergic to: _____															
Weight: _____ lbs. Asthma: <input type="checkbox"/> Yes (higher risk for a severe reaction) <input type="checkbox"/> No															
<b>NOTE: Do not depend on antihistamines or inhalers (bronchodilators) to treat a severe reaction. USE EPINEPHRINE.</b>															
<b>Extremely reactive to the following allergens:</b> _____															
<b>THEREFORE:</b>															
<input type="checkbox"/> If checked, give epinephrine immediately if the allergen was <b>LIKELY</b> eaten, for <b>ANY</b> symptoms.															
<input type="checkbox"/> If checked, give epinephrine immediately if the allergen was <b>DEFINITELY</b> eaten, even if no symptoms are apparent.															
<div style="text-align: center;"><b>FOR ANY OF THE FOLLOWING: SEVERE SYMPTOMS</b></div> <table border="0" style="width: 100%;"><tr><td style="text-align: center;"> <b>LUNG</b> Shortness of breath, wheezing, repetitive cough</td><td style="text-align: center;"> <b>HEART</b> Pale or bluish skin, faintness, weak pulse, dizziness</td><td style="text-align: center;"> <b>THROAT</b> Tight or hoarse throat, trouble breathing or swallowing</td><td style="text-align: center;"> <b>MOUTH</b> Significant swelling of the tongue or lips</td></tr><tr><td style="text-align: center;"> <b>SKIN</b> Many hives over body, widespread redness</td><td style="text-align: center;"> <b>GUT</b> Repetitive vomiting, severe diarrhea</td><td style="text-align: center;"> <b>OTHER</b> Feeling something bad is about to happen, anxiety, confusion</td><td style="text-align: center; vertical-align: middle;"><b>OR A COMBINATION</b> of symptoms from different body areas.</td></tr></table> <div style="text-align: center; margin-top: 10px;">↓      ↓      ↓</div> <ol style="list-style-type: none"><li>1. <b>INJECT EPINEPHRINE IMMEDIATELY.</b></li><li>2. <b>Call 911.</b> Tell emergency dispatcher the person is having anaphylaxis and may need epinephrine when emergency responders arrive.</li></ol> <ul style="list-style-type: none"><li>• Consider giving additional medications following epinephrine:<ul style="list-style-type: none"><li>» Antihistamine</li><li>» Inhaler (bronchodilator) if wheezing</li></ul></li><li>• Lay the person flat, raise legs and keep warm. If breathing is difficult or they are vomiting, let them sit up or lie on their side.</li><li>• If symptoms do not improve, or symptoms return, more doses of epinephrine can be given about 5 minutes or more after the last dose.</li><li>• Alert emergency contacts.</li><li>• Transport patient to ER, even if symptoms resolve. Patient should remain in ER for at least 4 hours because symptoms may return.</li></ul>		 <b>LUNG</b> Shortness of breath, wheezing, repetitive cough	 <b>HEART</b> Pale or bluish skin, faintness, weak pulse, dizziness	 <b>THROAT</b> Tight or hoarse throat, trouble breathing or swallowing	 <b>MOUTH</b> Significant swelling of the tongue or lips	 <b>SKIN</b> Many hives over body, widespread redness	 <b>GUT</b> Repetitive vomiting, severe diarrhea	 <b>OTHER</b> Feeling something bad is about to happen, anxiety, confusion	<b>OR A COMBINATION</b> of symptoms from different body areas.	<div style="text-align: center;"><b>MILD SYMPTOMS</b></div> <table border="0" style="width: 100%;"><tr><td style="text-align: center;"> <b>NOSE</b> Itchy or runny nose, sneezing</td><td style="text-align: center;"> <b>MOUTH</b> Itchy mouth</td><td style="text-align: center;"> <b>SKIN</b> A few hives, mild itch</td><td style="text-align: center;"> <b>GUT</b> Mild nausea or discomfort</td></tr></table> <div style="text-align: center; margin-top: 10px;"><b>FOR MILD SYMPTOMS FROM MORE THAN ONE SYSTEM AREA, GIVE EPINEPHRINE.</b></div> <div style="text-align: center; margin-top: 10px;"><b>FOR MILD SYMPTOMS FROM A SINGLE SYSTEM AREA, FOLLOW THE DIRECTIONS BELOW:</b></div> <ol style="list-style-type: none"><li>1. Antihistamines may be given, if ordered by a healthcare provider.</li><li>2. Stay with the person; alert emergency contacts.</li><li>3. Watch closely for changes. If symptoms worsen, give epinephrine.</li></ol>		 <b>NOSE</b> Itchy or runny nose, sneezing	 <b>MOUTH</b> Itchy mouth	 <b>SKIN</b> A few hives, mild itch	 <b>GUT</b> Mild nausea or discomfort
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<div style="text-align: center;"><b>MEDICATIONS/DOSES</b></div> <p>Epinephrine Brand or Generic: _____</p> <p>Epinephrine Dose: <input type="checkbox"/> 0.1 mg IM   <input type="checkbox"/> 0.15 mg IM   <input type="checkbox"/> 0.3 mg IM</p> <p>Antihistamine Brand or Generic: _____</p> <p>Antihistamine Dose: _____</p> <p>Other (e.g., inhaler-bronchodilator if wheezing): _____</p>															
PATIENT OR PARENT/GUARDIAN AUTHORIZATION SIGNATURE _____		DATE _____													
PHYSICIAN/HCP AUTHORIZATION SIGNATURE _____		DATE _____													
<small>FORM PROVIDED COURTESY OF FOOD ALLERGY RESEARCH &amp; EDUCATION (FARE) (FOODALLERGY.ORG) 5/2020</small>															



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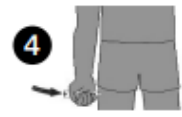
**HOW TO USE AUVI-Q® (EPINEPHRINE INJECTION, USP), KALEO**

1. Remove Auvi-Q from the outer case. Pull off red safety guard.
2. Place black end of Auvi-Q against the middle of the outer thigh.
3. Press firmly until you hear a click and hiss sound, and hold in place for 2 seconds.
4. Call 911 and get emergency medical help right away.



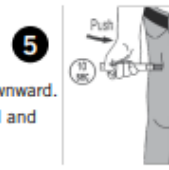
**HOW TO USE EPIPEN®, EPIPEN JR® (EPINEPHRINE) AUTO-INJECTOR AND EPINEPHRINE INJECTION (AUTHORIZED GENERIC OF EPIPEN®), USP AUTO-INJECTOR, MYLAN AUTO-INJECTOR, MYLAN**

1. Remove the EpiPen® or EpiPen Jr® Auto-Injector from the clear carrier tube.
2. Grasp the auto-injector in your fist with the orange tip (needle end) pointing downward. With your other hand, remove the blue safety release by pulling straight up.
3. Swing and push the auto-injector firmly into the middle of the outer thigh until it 'clicks'. Hold firmly in place for 3 seconds (count slowly 1, 2, 3).
4. Remove and massage the injection area for 10 seconds. Call 911 and get emergency medical help right away.



**HOW TO USE IMPAX EPINEPHRINE INJECTION (AUTHORIZED GENERIC OF ADRENALCLICK®), USP AUTO-INJECTOR, AMNEAL PHARMACEUTICALS**

1. Remove epinephrine auto-injector from its protective carrying case.
2. Pull off both blue end caps: you will now see a red tip. Grasp the auto-injector in your fist with the red tip pointing downward.
3. Put the red tip against the middle of the outer thigh at a 90-degree angle, perpendicular to the thigh. Press down hard and hold firmly against the thigh for approximately 10 seconds.
4. Remove and massage the area for 10 seconds. Call 911 and get emergency medical help right away.



**HOW TO USE TEVA'S GENERIC EPIPEN® (EPINEPHRINE INJECTION, USP) AUTO-INJECTOR, TEVA PHARMACEUTICAL INDUSTRIES**

1. Quickly twist the yellow or green cap off of the auto-injector in the direction of the "twist arrow" to remove it.
2. Grasp the auto-injector in your fist with the orange tip (needle end) pointing downward. With your other hand, pull off the blue safety release.
3. Place the orange tip against the middle of the outer thigh at a right angle to the thigh.
4. Swing and push the auto-injector firmly into the middle of the outer thigh until it 'clicks'. Hold firmly in place for 3 seconds (count slowly 1, 2, 3).
5. Remove and massage the injection area for 10 seconds. Call 911 and get emergency medical help right away.



**HOW TO USE SYMJEPITM (EPINEPHRINE INJECTION, USP)**

1. When ready to inject, pull off cap to expose needle. Do not put finger on top of the device.
2. Hold SYMJEPITM by finger grips only and slowly insert the needle into the thigh. SYMJEPITM can be injected through clothing if necessary.
3. After needle is in thigh, push the plunger all the way down until it clicks and hold for 2 seconds.
4. Remove the syringe and massage the injection area for 10 seconds. Call 911 and get emergency medical help right away.
5. Once the injection has been administered, using one hand with fingers behind the needle slide safety guard over needle.



**ADMINISTRATION AND SAFETY INFORMATION FOR ALL AUTO-INJECTORS:**

1. Do not put your thumb, fingers or hand over the tip of the auto-injector or inject into any body part other than mid-outer thigh. In case of accidental injection, go immediately to the nearest emergency room.
2. If administering to a young child, hold their leg firmly in place before and during injection to prevent injuries.
3. Epinephrine can be injected through clothing if needed.
4. Call 911 immediately after injection.

**OTHER DIRECTIONS/INFORMATION** (may self-carry epinephrine, may self-administer epinephrine, etc.):

Treat the person before calling emergency contacts. The first signs of a reaction can be mild, but symptoms can worsen quickly.

**EMERGENCY CONTACTS — CALL 911**

RESCUE SQUAD: \_\_\_\_\_

DOCTOR: \_\_\_\_\_ PHONE: \_\_\_\_\_

PARENT/GUARDIAN: \_\_\_\_\_ PHONE: \_\_\_\_\_

**OTHER EMERGENCY CONTACTS**

NAME/RELATIONSHIP: \_\_\_\_\_ PHONE: \_\_\_\_\_

NAME/RELATIONSHIP: \_\_\_\_\_ PHONE: \_\_\_\_\_

NAME/RELATIONSHIP: \_\_\_\_\_ PHONE: \_\_\_\_\_

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### **Lowering Risk for a Medication-Related Trigger**

- It is vital to inform all healthcare professionals who are providing care to an individual about any allergies to medications, and or anaphylactic episodes.
- All drug allergies are to be clearly identified in an individual's medical records, emergency medical information packets and medication administration records (MAR).
- The wearing of medical alert jewelry can relay accurate and appropriate health information to first responders and medical personnel (24).

### **Lowering Risk for a Latex-Related Trigger**

- Avoid contact with the allergen by communicating to all caregivers and service providers the individual is has a severe allergic reaction latex.
- If the individual has a latex allergy, caregivers and healthcare professionals should use latex-free products such as gloves.
- Check labels to make sure products do not contain latex. Do not assume "hypoallergenic" products are latex-free (4).

### **Lowering Risk for an Insect Sting**

- Educate individuals on avoiding bee hives, insect nests, and mounds.
- Encourage the individual to wear light-colored, light weight, smooth-finished clothing.
- Avoid using perfumes or colognes, including perfumed soaps, shampoos, and deodorants.
- When outdoors individuals should be dressed appropriately for the weather including wearing shoes and clothing to cover as much of the body as possible.
- Avoid lingering around flowering plants when outdoors when possible.
- Keep areas in and around the home clear of trash. Stinging insects are attracted to bins where food is disposed.
- Remain calm and still if stinging insects are flying around, swatting may cause them to become angry.
- Bees release a chemical when they sting, which attracts other bees. If a number of stinging insects are in the same area as the individual, remove the individual from the area as quick as possible.
- If jumping into water to avoid stinging insects be aware some stinging hornets are known to hover above the water.
- If a stinging insect is inside a vehicle, remain claim, stop the car slowly in a safe area, and open all the windows to allow it to exit (10).

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## Caregiver Considerations

The decision-making process for the caregiver can make the difference for an individual who is dependent for assistance during an anaphylactic episode. Studies on caregiver identification and reaction to anaphylaxis showed when face-to-face practice was done with caregivers their recognition and response time was more accurate than those caregivers who only watched a demonstration video without hands on practice (16).

### Management and Education

Anaphylaxis management and education should be individualized according to the individual's history of allergies, signs and symptoms present during an anaphylactic event. Anaphylaxis management can be divided into two steps:

- 1) The first step is based on the most important task of administering intramuscular (IM) epinephrine (adrenaline).
  - Direct support professionals (DSP) and caregivers who have completed a Medication Administration course can administer Epinephrine auto-injector pens by intramuscular (IM) route.
  - An epinephrine auto-injector should always be kept with the individual, along with a caregiver who is trained in administration.
- 2) The second step includes additional interventions which start when the treatment of the individual is taken over by Emergency Medical Technicians (EMTs) (8).
  - Caregivers must provide the EMTs with the individual's emergency medical information, detailed information on the individual's symptoms and how much epinephrine was administered prior to their arrival.

Promote a collaborative approach within the individual's Care Team, and make sure:

- Anaphylaxis Emergency Action Plans are included in all student Individualized Education Plans (IEPs) and Section 504s (up to age 22), and all adult Individual Support Plans (ISPs).
- All staff can demonstrate all of the steps outlined within the individual's Anaphylaxis Emergency Action Plan.
- All staff are trained and can demonstrate how to administer epinephrine (Epi-Pen, etc.) know where it is kept, and know the protocol for outings and events.
- All staff can identify the signs of anaphylaxis.

- All staff can identify each individual's allergy triggers, and/or all staff know where the information can be found when there are questions.
- All staff practice and can identify and demonstrate correctly, the protocol they should follow when a medical emergency occurs.

## **Teach the Universal Sign for Epinephrine to Individuals at Highest Risk**

During an anaphylactic emergency many times individuals cannot speak or ask for help due to their airway closing up. As mentioned previously, other individuals may be non-verbal and/or may have difficulty communicating effectively on a day-to-day basis. Individuals with a history of anaphylaxis and or allergies should be taught to use the universal sign for epinephrine when experiencing anaphylaxis symptoms (if they are physically and cognitively able to do so).

FIST to THIGH is the universal sign to show the need for epinephrine (19).

- Move in motion.
- FIST to THIGH.
- Wait a second.
- Repeat again.
- FIST to THIGH.



Use this video to teach individuals how to “sign” for epinephrine, and have them demonstrate it for all of their caregivers, family members, classmates, co-workers, etc.  
<https://www.foodallergyawareness.org/media/videos/FAACT - Fist to Thigh.mp4>

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## The ADA Considers Asthma and Food Allergies Disabilities

[The Americans with Disabilities Act](#) (ADA) and [Section 504](#) define a person with a disability as: “a person who has a physical or mental impairment that substantially limits one or more major life activity. This includes people who have a record of such an impairment, even if they do not currently have a disability” (1).

Major life activities include:

- Breathing.
- Eating.
- Working.
- Going to school.

The ADA protects people with asthma and allergies even if reactions or attacks happen only occasionally, or when triggered. In addition, the use of a medical aid or device no longer excludes individuals from ADA coverage.

Previously, individuals with asthma who got relief from an inhaler were not covered by the ADA. The inhaler was thought to have removed the disability. [The ADA now protects people with asthma and allergies, even if their medication controls their symptoms](#) (6). If you need more information on allergy and asthma protections, please see the resources section.

## Resources

- The American Academy of Allergy, Asthma, and Immunology (AAAAI) Anaphylaxis Plan [www.aaaai.org](http://www.aaaai.org)
- Are Allergies and Asthma disabilities?  
<https://www.aafa.org/asthma-allergies-and-the-american-with-disabilities-act/>
- CDC Recognizing and Responding to Anaphylaxis Poster  
<https://www.cdc.gov/vaccines/covid-19/downloads/recognizing-responding-to-anaphylaxis-508.pdf>
- DBHDS OIH-HSN - My Care Passport, Consent Tip Sheet, Discharge Tip Sheet, and the Medicaid Waiver Tip Sheet with narrated training:  
<https://dbhds.virginia.gov/office-of-integrated-health/>
- Food Allergen Labeling and Consumer Protection Act of 2004 (FALCPA)  
<https://www.fda.gov/food/food-allergensgluten-free-guidance-documents-regulatory-information/food-allergen-labeling-and-consumer-protection-act-2004-questions-and-answers>



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- Food Allergy Research & Education (FARE) Food Allergy Academy  
<https://www.foodallergy.org/our-initiatives/education-programs-training/fare-training>
  - Food Allergy Research & Education (FARE) Tips for Avoiding Your Allergen  
<https://www.foodallergy.org/living-food-allergies/food-allergy-essentials/common-allergens/tips-avoiding-your-allergen>
  - Virginia Department of Education Policies and Guidelines:  
[https://www.doe.virginia.gov/support/health\\_medical/anaphylaxis\\_epinephrine/](https://www.doe.virginia.gov/support/health_medical/anaphylaxis_epinephrine/)
    - [Sample Anaphylaxis Skills Competency Checklist](#) (Word)
    - [Sample Auto-injector Skills Competency Checklist](#) (Word)
    - [Sample Anaphylaxis Policy](#) (Word)
    - [Food Allergy and Anaphylaxis Network](#) – information, programs and resources related to food allergy and anaphylaxis
    - [Training video for the Auvi-Q Epinephrine Auto-injector](#) – Short video on how to use the Auvi-Q auto injector and indications for use.
    - [Training Video for the EpiPen Auto Injector](#) – Short video on recognizing anaphylaxis and how to use an EpiPen.
  - World Allergy Organization Anaphylaxis Guidance 2020  
[https://www.worldallergyorganizationjournal.org/article/S1939-4551\(20\)30375-6/fulltext](https://www.worldallergyorganizationjournal.org/article/S1939-4551(20)30375-6/fulltext)
  - World Allergy Organization Anaphylaxis Poster Download  
[https://www.jacionline.org/article/S0091-6749\(11\)00128-X/fulltext](https://www.jacionline.org/article/S0091-6749(11)00128-X/fulltext)
  - World Allergy Organization Anaphylaxis Pocket Card Download  
<https://www.worldallergy.org/disease-focus/anaphylaxis>

## References

- 1) ADA National Network (2022). What is the definition of disability under the ADA?  
<https://adata.org/faq/what-definition-disability-under-ada#:~:text=The%20ADA%20defines%20a%20person,not%20currently%20have%20a%20disability.>
- 2) Alvarez-Perea, A., Tanno, L. K., & Baeza, M. L. (2017). How to manage anaphylaxis in primary care. *Clinical and translational allergy*, 7, 45. <https://doi.org/10.1186/s13601-017-0182-7>
- 3) American Academy of Allergy, Asthma & Immunology (AAAAI). (2022). Anaphylaxis.  
<https://www.aaaai.org/conditions-treatments/allergies/anaphylaxis>
- 4) Asthma and Allergy Foundation of America (AAFA). (2021). Anaphylaxis in America.  
<https://www.aafa.org/anaphylaxis-in-america/>
- 5) Asthma and Allergy Foundation of America (AAFA). (2017). Anaphylaxis: A severe allergic

- 
- reaction. <https://www.aafa.org/anaphylaxis-severe-allergic-reaction/>
- 6) Asthma and Allergy Foundation of America (AAFA) (2016, March). Are asthma and allergies disabilities? Americans with disabilities act: How it affects you if you have asthma or allergies. <https://www.aafa.org/asthma-allergies-and-the-american-with-disabilities-act/>
  - 7) Asthma and Allergy Foundation of America (AAFA). (2015). Latex allergy. <https://www.aafa.org/latex-allergy/>
  - 8) Cardona, V., Ansotegui, I.J., Ebisawa, M., El-Gamal, Y., Rivas, M. F., Fineman, S., Geller, M., Gonzalez-Estrada, A., Greenberger, P. A., Borges, M. S., Senna, G., Aziz Sheikh, A., Tanno, L. K., Thong, B. Y., Paul J Turner, P. J., & Worm, M. (2020, October). World allergy organization anaphylaxis guidance 2020. *World Allergy Organization Journal*, 13(10), 1-25. <http://doi.org/10.1016/j.waojou.2020.100472>
  - 9) Casey, G. (2013, October). [Image] Hypersensitivity and anaphylaxis. *Kai Tiaki Nursing New Zealand*, 19(9), 20-24. <https://pubmed.ncbi.nlm.nih.gov/24340448/>
  - 10) Centers for Disease Control & Prevention (CDC). (2022). Bees, Wasp, and Hornets, <https://www.cdc.gov/niosh/topics/insects/beeswasphornets.html>
  - 11) Centers for Disease Control & Prevention (CDC). (2021). Recognizing and Responding to Anaphylaxis, <https://www.cdc.gov/vaccines/covid-19/downloads/recognizing-responding-to-anaphylaxis-508.pdf>
  - 12) Cleveland Clinic. (2021a). Anaphylaxis, <https://my.clevelandclinic.org/health/diseases/8619-anaphylaxis#symptoms-and-causes>
  - 13) Cleveland Clinic. (2021b). Disease Management, Anaphylaxis, <https://www.clevelandclinicmeded.com/medicalpubs/diseasemanagement/allergy/anaphylaxis/>
  - 14) Dribin, T. E., Motosue, M. S., & Campbell, R. L. (2022, February) Overview of allergy and anaphylaxis. *Emergency Med Clin North American*, 40(1), 1–17. doi: 10.1016/j.emc.2021.08.007.
  - 15) Farrell, M & Dempsey, J. (2016). Australian Society of Clinical Immunology and Allergy (ASCIA). ASCIA Anaphylaxis Clinical Update. <https://www.allergy.org.au/health-professionals/papers/anaphylaxis>
  - 16) Fernandez-Mendez, F., Nieves Maria Saez-Gallego, N. M., Barcala-Furelos, R., Abelairas-Gomez, C., Alexis Padron-Cabo, A., Perez-Ferreiros, A., Garcia-Magan, C., Moure-Gonzalez, J., Contreras-Jordan, O., & Rodriguez-Nuñez, A. (2017, July). Learning and treatment of anaphylaxis by laypeople: A simulation study using pupilar technology. *Hindawi BioMed Research International*, 9837508, 1-9. <https://doi.org/10.1155/2017/9837508>
  - 17) Food Allergy Research & Education (FARE). (2022a). Food Allergy & Anaphylaxis Emergency Care Plan, <https://www.foodallergy.org/living-food-allergies/food-allergy-essentials/food-allergy-anaphylaxis-emergency-care-plan>
  - 18) Food Allergy Research & Education (FARE). (2022b). How to Read a Food Label <https://www.foodallergy.org/resources/how-read-food-label>
  - 19) Food Allergy & Anaphylaxis Connection Team. (2019). Food allergy & anaphylaxis. <https://www.foodallergyawareness.org/food-allergy-and-anaphylaxis/anaphylaxis/anaphylaxis/>
  - 20) TenBrook Jr, J. A., Wolf, M. P., Hoffman, S. N., Rosenwasser, L. J., Konstam, M. A., Salem, D. N., & Wong, J. B. (2004). Should  $\beta$ -blockers be given to patients with heart disease and peanut-induced anaphylaxis? A decision analysis. *Journal of allergy and clinical immunology*, 113(5), 977-982.
  - 21) Hutchins, L. M. and Kleinman, K. (2019, August). Epinephrine autoinjectors for anaphylaxis. *Clinical Pharmacologist's Notebook*, 1-6. <https://www.contemporarypediatrics.com/view/epinephrine-autoinjectors-anaphylaxis>
  - 22) Johns Hopkins Medical Center (2022). Anaphylaxis. <https://www.hopkinsmedicine.org/health/conditions-and-diseases/anaphylaxis>

- 
- 23) Kloeck, W. G. J. (2017, March). Anaphylaxis. *Professional Nursing Today*, 21(1), 33-37.  
<https://hdl.handle.net/10520/EJC-67797c87e>
  - 24) Mayo Clinic. (2022). Anaphylaxis. <https://www.mayoclinic.org/diseases-conditions/anaphylaxis/symptoms-causes/syc-20351468>
  - 25) Mayo Clinic. (2021). Anaphylaxis Symptoms & Causes <https://www.mayoclinic.org/diseases-conditions/anaphylaxis/symptoms-causes/syc-20351468>
  - 26) Mayo Clinic. (2020). Drug Allergy, <https://www.mayoclinic.org/diseases-conditions/drug-allergy/symptoms-causes/syc-20371835>
  - 27) McLendon, K. & Sternard, B. T. (2021, December). Anaphylaxis. *StatPearls Publishing*, 1-10.  
<https://www.ncbi.nlm.nih.gov/books/NBK482124/>
  - 28) Muraro, A., Worm, M., Alviani, C., Cardona, V., DunnGalvin, A., Garvey, H. L., Riggioni, C., de Silva, D., Elizabeth Angier, E., Arasi, S., Bellou, A., Beyer, K., Bijlhout, D., Maria Beatrice Bilò, M. B., Bindslev-Jensen, C., Brockow, K., Fernandez-Rivas, M., Halken, S., Jensen, B., Khaleva, E., Michaelis, L. J., Hanneke N. G., Elberink, O., Regent, L., Sanchez, A., Berber J. Vlieg-Boerstra, B. J., Roberts, G., & European Academy of Allergy and Clinical Immunology, Food Allergy, Anaphylaxis Guidelines Group. (2021, July). *EAACI guidelines: Anaphylaxis*, 77, 357-377. DOI: 10.1111/all.15032
  - 21) Peate, I. and Holmes, E. (2013, November). [Image] It is key for HCA/APs to be alert to signs of anaphylactic shock. *British Journal of Healthcare Assistants*, 7(11), 540-545.  
<https://www.magonlinelibrary.com/doi/abs/10.12968/bjha.2013.7.11.540>
  - 22) Rance, K., and O'laughlen, M. (2014, February). Managing food allergies in primary care. *Clinical Advisor for Nurse Practitioners*. 53-60. <https://www.clinicaladvisor.com/home/cme-ce-features/managing-food-allergies-%E2%80%A8in-primary-care/>
  - 23) Regateiro, F. S., Marques, M. L., & Gomes, R. E. (2020, May). Drug-induced anaphylaxis: An update on epidemiology and risk factors. *International Archives of Allergy and Immunology*. 181, 481–487. DOI: 10.1159/000507445
  - 24) Seth, D. and Kamat, D. (2022, March). Anaphylaxis: recognition, treatment, and outcomes. *AIMS Medical Science Review*, 9(1), 65–80.  
<https://www.aimspress.com/article/id/6237e91fba35de1ee63d3967>
  - 25) U.S Food & Drug Administration (FDA). (2022). Food Allergies, <https://www.fda.gov/food/food-labeling-nutrition/food-allergies>
  - 26) World Allergy Organization (WAO). (2019). Anaphylaxis: Synopsis  
<https://www.worldallergy.org/education-and-programs/education/allergic-disease-resource-center/professionals/anaphylaxis-synopsis>
  - 27) Worm, M., Eckermann, O., Dölle, S., Aberer, W., Beyer, K., Hawranek, T., Hompes, S., Koehli, A., Mahler, V., Nemat, K., Niggemann, B., Pfohler, C., Rabe, U., Reissig, A., Rietschel, E., Scherer, K., Treudler, R., & Ruëff, F. (2014). Triggers and treatment of anaphylaxis. *Deutsches Ärzteblatt International*, 111, 367–75. doi: 10.3238/arztebl.2014.0367
  - 28) Wright, L. (2020, July). Component testing emerging as critical indicator for anaphylactic risk. *Autoimmune/Allergy*, 8-11. <https://www.mlo-online.com/continuing-education/article/21142397/component-testing-emerging-as-critical-indicator-for-anaphylactic-risk>